

### **Remarks**

Claims 1-21 are currently pending in the Application, Claims 1-14 are withdrawn from consideration and Claims 22-28 are newly presented herein.

#### **Claims 15-21**

This response amends Claim 15 by further reciting “an active layer with source/drain regions formed therein.” Support for this amendment can be found, for example, in Figure 3E of the specification.

#### **New Claims**

This response adds new claims 22-28 to more completely claim the invention. Support for the new Claims 22-28 can be found on pages 4-6 and Figure 3E of the specification.

#### **35 U.S.C. §102(e) Rejection**

Claims 15-21 stand rejected under 35 U.S.C. §102(e) as being anticipated by Park (U.S. Patent No. 6,455,874). Applicants respectfully disagree.

The Examiner is reminded that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” MPEP 2131 quoting *Verdegaal Bros. V. Union Oil Co, of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The Examiner is also reminded that “[the] identical invention must be shown in as complete detail as is contained in the ... claim.” MPEP 2131 quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The Applicants submit that Park does not teach each and every element as set forth in the rejected claims. In particular:

#### **Claim 15**

A. Applicants submit that Park does not disclose, suggest or teach, *inter alia*, at least the following features recited by amended Claim 15 of the present application:

“an active layer with **source/drain regions** formed therein” (emphasis added)

The Examiner asserts that “an active layer” as recited in Claim 15 is disclosed by Park’s “layer 119b.” See page 3, section 5 of the Official Action. Applicants respectfully traverse the Examiner’s assertion.

Park teaches that a source area “B” and a drain area “C” are formed on the surface of layer “115a.” See column 7, lines 20-23 of Park. According to Park, the layer “119b” is located above the layer “115a.” See Figure 3E of Park. How can Park disclose that a layer “119a” has “source/drain regions formed therein” as recited in amended Claim 15, when Park teaches that source “B” and drain “C” are formed on layer “115a”?

Applicants submit that Park does not teach, disclose or suggest “an active layer with source/drain regions formed therein” as recited in amended Claim 15. Hence, Claim 15 is patentable over Park and should be allowed by the Examiner. Claims 16-21, at least based on their dependency on Claim 15, are also believed to be patentable over Park.

**B.** Applicants submit that Park does not disclose, suggest or teach, *inter alia*, at least the following features recited by amended Claim 15 of the present application:

“an insulating layer, covering the active layer ... and the **side walls** of the active layer” (emphasis added)

The Examiner asserts that “an insulating layer” as recited in Claim 15 is disclosed by Park’s “layers 121a and 117a.” See page 3, section 5 of the Official Action. The Examiner also asserts that “an active layer” as recited in Claim 15 is disclosed by Park’s “layer 119b.” See page 3, section 5 of the Official Action. Applicants respectfully traverse the Examiner’s assertion.

Park teaches that layers “121a and 117a” are formed above and below layer

“119b.” See Figure 3D of Park. How can layers that are disposed above and below the layer “119b” disclose “an insulating layer, covering ... side walls of the active layer” as recited in amended Claim 15? In fact, Applicants submit that layers “121a and 117a” do not cover side walls of Layer “119b” as shown in Figure 3D of Park.

Applicants submit that Park does not teach, disclose or suggest “an insulating layer, covering ... the **side walls** of the active layer” as recited in amended Claim 15. Hence, Claim 15 is patentable over Park and should be allowed by the Examiner. Claims 16-21, at least based on their dependency on Claim 15, are also believed to be patentable over Park.

### **35 U.S.C. §103(a) Rejection**

Claims 15-21 stand rejected under 35 U.S.C. §103(a) as being obvious in view of Park. Claims 19-20 stand rejected under 35 U.S.C. §103(a) as being obvious in view of Park and further in view of further remarks.

Applicants submit that the Examiner has **not** established a *prima facie* case of obviousness for the claims rejected under 35 U.S.C. §103(a). Applicants note:

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. **Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure" (emphases added) *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants submit that a *prima facie* case of obviousness has not been established for the reasons set forth below.

Applicants submit that, at least for the reasons sated above, Park does not disclose, suggest or teach “an active layer with **source/drain regions** formed therein, ... an insulating layer, covering ... the **side walls** of the active layer” (emphases added) as recited in amended Claim 15. Hence, Claim 15 is patentable over Park and should be allowed by the Examiner. Claims 16-21, at least based on their dependency on Claim 15, are also believed to be patentable over Park.

#### **Patentability of new Claim 22**

New Claim 22 recites a “thin film transistor having a buffer layer for promoting electron mobility, comprising: a substrate; a buffer layer, comprising: an amorphous layer, deposited on the substrate; and a crystallized layer, deposited on the amorphous layer; an active layer, deposited on the crystallized layer; an insulating layer, covering the active layer, the amorphous layer, crystallized layer and the side walls of the active layer; a conductive layer, serving as a gate, deposited on the insulating layer above parts of the active layer; and a dielectric layer, completely covering the crystallized layer and the conductive layer.” Applicants submit that at least some of these features are not disclosed by the prior art cited by the Examiner. Support for the new Claim 22 can at least be found on page 6 and Figure 3E of the specification.

Hence, Claim 22 is patentable and should be allowed by the Examiner. Claims 23-28, at least based on their dependency on Claim 22, are also believed to be patentable.

**Conclusion**

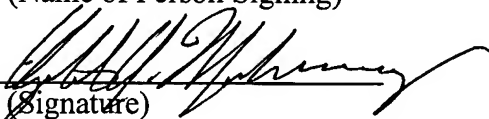
In view of the above, reconsideration and allowance of all the claims are respectfully solicited.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136 (a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

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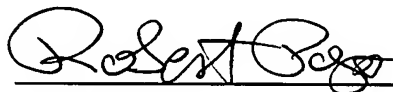
July 6, 2005  
(Date of Deposit)

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